Technical Support

Automated FAX	**(408) 942-4005**	(24 hours)
Bulletin Board System (BBS)	**(408) 942-4010**	(24 hours)

The **BBS** setup requires the following modem settings:

Baud Rate: 1200 - 14400 bps **Data Bits:** 8 **Stop Bit:** 1 **Parity:** None

After you have registered and created your own password, you will be brought to the Main Board Menu. To access a conference from the Main Board, use the "**J**" command to **Join** a Conference. Once you have joined the appropriate conference, type "**F**" for a list of the Files Directories. The Files Directories are divided into three (3) subdirectories: "**1**" is Install Guides and Application Notes, "**2**" is Drivers, and "**3**" is for Uploads.

Sales Support

DTC Data Technology Corporation offers a full line of AT, EISA, VESA, and PCI bus controllers for IDE/ATA and SCSI. For information, contact the nearest distributor or contact DTC at one of the following numbers:

Phone	**(408) 942-4081**	(8am - 5pm PST)
Sales Support FAX	**(408) 942-4027**	(24 hours)

Limited Hardware Warranty

DTC Data Technology Corporation warrants the DTC 2278S/D against defects in materials and workmanship for a period of one (1) year from the date of original retail purchase. DTC Data Technology Corporation will, at its option, repair, replace, or refund the purchase price of the defective product if returned, with a copy of the bill of sale, shipping prepaid, during the warranty period. DTC Data Technology Corporation will not be liable for special, incidental, or consequential damages arising out of the use of this product and in no event shall the liability of DTC Data Technology exceed the actual amount paid by purchaser for this product.

FCC Compliance

This device complies with the Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. However, there is no guarantee that interference will not occur in a particular installation. DTC Data Technology is not responsible for any television, radio, or other interference caused by unauthorized modification of this product.
Modifications to this equipment that are unauthorized by the manufacturer may void the user's right to operate this device according to FCC rules.
FCC # J8Y2278VL

DTC 2278S/D
Local-Bus to IDE and Super I/O Controller

Part Number 900140-89B

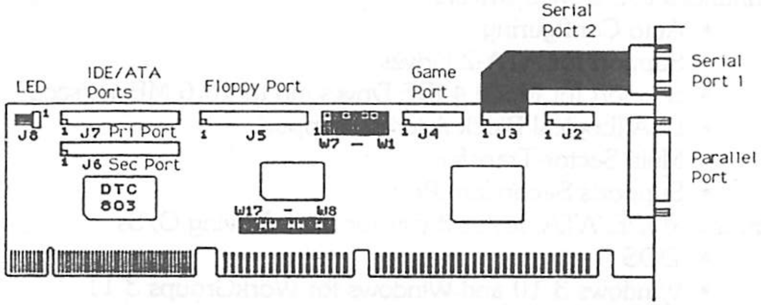


Figure 1 Diagram of the DTC 2278S/D Host Adapter

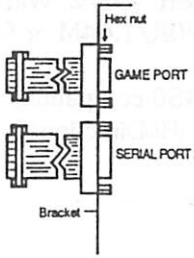


Figure 2 Diagram of Serial Port 2 and Game Port Bracket

DTC DATA TECHNOLOGY
CORPORATION

Features

- VESA Local Bus (VL-Bus) operation to 50MHz
- 32-bit host interface
- DTC 2278S Supports Two (2) IDE/ATA devices:
  - IDE Hard disk drives
  - IDE Tape drives
  - IDE CDROM drives (ATAPI Compatible)
- DTC 2278D Supports Four (4) IDE/ATA devices:
  - IDE Hard disk drives
  - IDE Tape drives
  - IDE CDROM drives (ATAPI Compatible)
- Enhanced IDE Device Drivers
  - Auto Configuring
  - Support for ATA-2 Drives
  - Support for Mode 4 IDE Drives (up to 16.6 MByte/sec.)
  - LBA (Logical Block Address) support
  - Multi Sector Transfer
  - Supports Secondary Port
- Enhanced IDE/ATA device driver for the following O/Ss.
  - DOS
  - Windows 3.10 and Windows for WorkGroups 3.11
  - Review the "README.1ST" file on the driver diskette for additional OS support. (OS/2, Win NT, and Novell)
- Support for two 3½" 720K/1.44M or 5¼" 360K/1.2M floppy disk drives
- Two serial ports (NS16450 compatible)
- One parallel printer port (Bi-Directional)
- One game port

Configuration & Hardware Jumpers

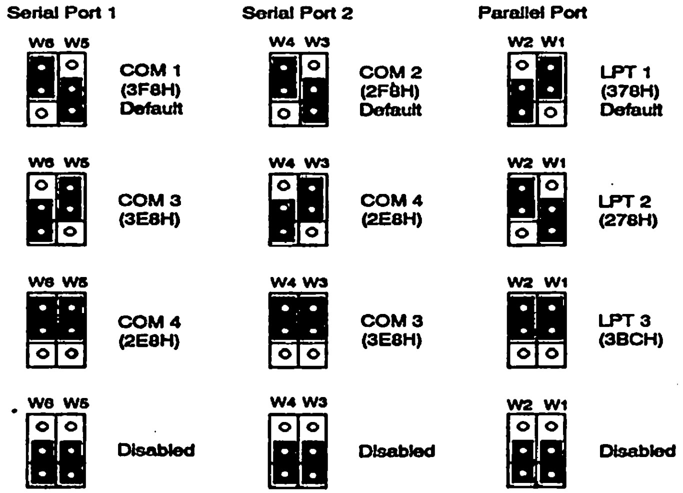
The factory default settings are suitable for most computer applications and typically do not need to be changed.

Defaults

Serial Port 1:	COM 1	3F8H	IRQ 4
Serial Port 2:	COM 2	2F8H	IRQ 3
Parralel Port:	LPT 1	378H	IRQ 7
Floppy Port:	Enabled		
Game Port:	Enabled		

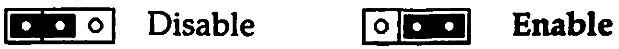
IO Port Address (W6 - W1)

These jumpers select the address of the IO ports as follows:

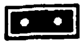
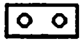


Floppy Controller Enable (W7)

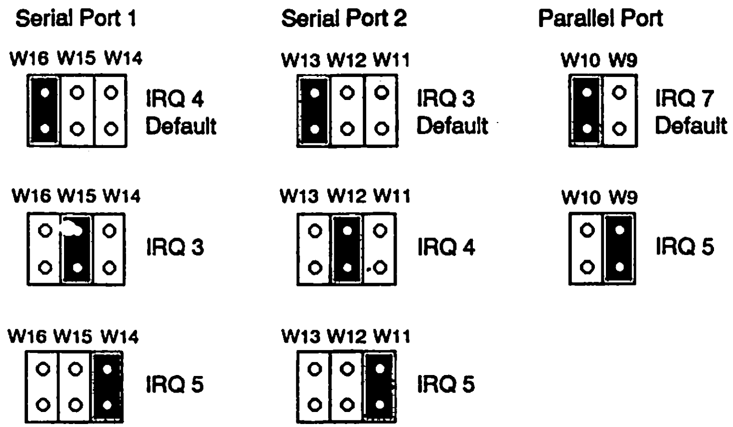
The Floppy Control circuit is auto enabled when a floppy disk drive is attached to connector J5. If stuffed, W7 can be used to overide the auto enable circuitry.



Game Port Enable (W8)

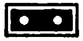
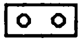
 **Enable** (Default)  Disable

I/O Port Interrupt Select (W16-W9)



Parallel Port I/O Select (W17)

This jumper selects an output only function (for printer use), or an I/O function which is controlled by the printer control register.

 **Output Only** (Default)  Input/Output

Installation

NOTES:

When connecting a ribbon cable connector, always align the colored (blue or red) side of the cable to Pin 1.

1. Power down the computer, all devices connected to it, and disconnect the power cord.
2. Set the jumpers on the DTC 2278S/D.
3. Install the DTC 2278S/D in an available 32-bit VL-BUS slot.
4. Install the Serial Port 2 and Game Port bracket in an available blank bracket location.
5. Connect the header connector from the Serial Port 2 connector ribbon cable to J2.
6. Connect the header connector from the Game Port connector ribbon cable to J4.
7. Connect the 34-pin floppy drive cable to J5. Connect the other end of the cable to the floppy drive(s). The twisted end of the cable is for drive A: and the middle connector is for drive B:. If drive B: is installed, remove the terminating resistors from it.
8. Connect the Primary Port drive(s). Attach one end of a 40-pin IDE ribbon cable connector to J7. Connect the other end of the cable to the IDE/ATA drive(s).
9. IF a DTC 2278D, connect any Secondary Port drive(s). Attach one end of a 40-pin IDE ribbon cable connector to J6. Connect the other end of the cable to the IDE/ATA drive(s).
10. Attach the hard drive activity LED connector to J8.
11. Close the computer cover and power it on.
12. Turn system on and enter the CMOS Setup program. Select the appropriate drives type for the hard drive attached . Save CMOS settings.

Installing Software Drivers

The DTC 2278S/D Primary Port will operate without the use of Device Drivers in all Operating Systems. (ISA 16 Bit PIO)

DTC Enhanded IDE drivers need to be loaded to support the Secondary Port , turn on 32-bit mode, enable multi-sector transfers, and program the DTC 2278S/D and each IDE device for optimal performance.

EZIDE Installation Utility

The **EZIDE** Installation Utility will automatically install the DOS and Windows drivers. To use **EZIDE**, insert the DTC Enhanced IDE Driver diskette into the **A:** drive and type:

A:EZIDE

For detailed information on Installation, troubleshooting, and other Operating Systems, refer to the "README.1ST" file on the driver diskette received with this product.

DOS

- Insert MS-DOS boot disk in drive A: and reboot system.
- Partition the IDE drive with DOS FDISK and then perform DOS FORMAT. Install DOS on the hard drive.
- Copy the **DOSEIDE.SYS** file to boot directory. **"C:\"**
- Add the following line to the **CONFIG.SYS** file:
  device=DOSEIDE.SYS
- To Enable the Secondary port:, (IRQ15 and I/O 170H - 177H). Add a "**/2**" software switch to the "**DOSEIDE.SYS**" line in the CONFIG.SYS file.
  device=doseide.sys /2
- Re-boot the system.

Windows 3.1

Read the "README.1ST" file on the driver diskette for instructions on the installation of the DTC Enhanced IDE Windows VxD driver.
The "DOSEIDE.SYS" driver must be installed to be able to access drives installed on the secondary port , when in Windows.

Troubleshooting

This section lists some of the problems the user might encounter following installation and configuration of the DTC 2278S/D. The "README.1ST" file on the driver diskette contains additional troubleshooting suggestions.
The most current set of drivers for this product, are available from the DTC BBS. (See Technical Support section for details)

PROBLEM: DTC 2278S/D Hangs or Fails when you access the Hard Disk.
SOLUTION: The drive may have limitations in its operational capability. Use the following steps to put the drive in a standard operation mode.
Step 1: Determine if Multi-Sector is the problem by disabling Multi-Sector transfer. Add this switch after the "device=doseide.sys" statement in the Config.sys file: **/dx:m0** (set **x** = Drive #, i.e. 0/1)
Step 2: Determine if Drive Transfer rate is the problem by setting drive to standard PIO Mode 0. Add this switch after the "device=doseide.sys" statement in the Config.sys file: **/dx:p0** (set **x** = Drive #, i.e. 0/1)

PROBLEM: DTC 2278S/D will not run WFWG 3.11 or Windows 3.1 in Enhanced Mode.
SOLUTION: The DTC 2278S/D does support WFWG 3.11 and Windows 3.1 in Enhanced mode. Check the following:
1. Make sure you have installed the DTC Windows Driver **WINEIDE.386** in the **SYSTEM.INI** file correctly. See DTC Windows driver installation instructions included in the 'README..1ST" file on the driver diskette.

PROBLEM: Can not access drives on the secondary port in WFWG 3.11 or Windows 3.1 in Enhanced Mode.
SOLUTION: Make sure you have installed the DTC DOS Driver **DOSEIDE.SYS** with the **/2** switch in the **Config.sys** file correctly.

PROBLEM: Performance is not up to expectation. Data transfer rates appear slow.
SOLUTION: Verify that the DOS device driver, DOSEIDE.SYS, and the Windows driver, WINEIDE.386 are installed. Use an IDE hard drive that supports multi-sector transfers and has a fast data transfer rate as reported by the drive manufacturer. New drives that support the ATA-2 Specification show the best results. Verify the performance by using the DTC benchmark utility "DTCSPEED.EXE" found on the driver diskette.